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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,813	04/18/2005	Takashi Nakai	09864/0202607-US0	3685

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EXAMINER	
BELL, WILLIAM P	

ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
08/26/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,813	NAKAI ET AL.	
	Examiner	Art Unit	
	WILLIAM P. BELL	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,15,16,22 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,15,16,22 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/9/2009,8/10/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2 July 2009 has been entered.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kondo (European Patent Application No. EP-1170075) for the reasons cited in the previous Office action.

Regarding claim 1, Kondo teaches a method for forming a compact from a powder (see [0012]), comprising the steps of: applying a solution obtained by dissolving a lubricant in a solvent to a forming portion of a mold body (see [0050]-[0052]); evaporating the solution to form a layer of the lubricant on a surface of the forming portion (see [0055]); filling the forming portion of the mold body with a raw powder (see [0058]), said raw powder being Fe-based metal powder or Cu-based metal powder (see [[0058]-[0059]); and then fitting upper and lower punches into the forming portion (see [0052]-[0054]; one of skill in the art knows that inserting upper and lower punches into "an ordinary die for forming a compact in the field of powder metallurgy" is a prerequisite step for applying compaction pressure to the powder). While Kondo does not explicitly list one of the lubricants listed by Applicant, he does state that the lubricants can be "composed of metal salts of higher fatty acid" and recites several metal salts of stearic acid as examples (see [0039]). Since there are only a limited number of metals, Kondo anticipates the use of sodium stearate as a lubricant, or in the alternative it would be obvious to do so. Sodium stearate is known to be soluble in water and to crystallize upon evaporation of the water from an aqueous solution, thus forming a crystallized layer on the mold surface (see [0055]). Kondo teaches that, when applying the lubricant to an inner surface of a die, the lubricant should be diluted to a level of 0.1 to 5% by weight of the lubricant in the total weight of the diluted aqueous solution (see [0050]). This concentration range covers, at least in part, the range of concentrations between that of a saturated solution and that at which a crystallized layer of one molecule of the lubricant is formed.

Regarding claim 16, Kondo teaches a method wherein a defoaming agent is added into the lubricant (see [0047]).

5. Claims 22 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kondo. Regarding claim 22, Kondo teaches a method for forming a sintered product from a powder (see [0002] and [0012]), comprising the steps of: applying a solution obtained by dissolving a lubricant in a solvent to a forming portion of a mold body (see [0050]-[0052]); evaporating the solution to form a layer of the lubricant on a surface of the forming portion (see [0055]); filling the forming portion of the mold body with a raw powder (see [0058]), said raw powder being Fe-based metal powder or Cu-based metal powder (see [[0058]-[0059]); fitting upper and lower punches into the forming portion (see [0052]-[0054]; one of skill in the art knows that inserting upper and lower punches into "an ordinary die for forming a compact in the field of powder metallurgy" is a prerequisite step for applying compaction pressure to the powder); pressing the raw powder to form a compact (see [0057]); and sintering the compact to form a sintered product (see [0002]). While Kondo does not explicitly list one of the lubricants listed by Applicant, he does state that the lubricants can be "composed of metal salts of higher fatty acid" and recites several metal salts of stearic acid as examples (see [0039]). Since there are only a limited number of metals, Kondo anticipates the use of sodium stearate as a lubricant, or in the alternative it would be obvious to do so. Sodium stearate is known to be soluble in water and to crystallize upon evaporation of the water from an aqueous solution, thus forming a crystallized layer on the mold surface (see [0055]). Kondo teaches that, when applying the lubricant

to an inner surface of a die, the lubricant should be diluted to a level of 0.1 to 5% by weight of the lubricant in the total weight of the diluted aqueous solution (see [0050]). This concentration range covers, at least in part, the range of concentrations between that of a saturated solution and that at which a crystallized layer of one molecule of the lubricant is formed.

Regarding claim 23, Kondo teaches a method wherein the step of applying a solution is carried out by spraying the solution (see [0051]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo as applied to claim 1 above, and further in view of Murata (International Patent Application Publication No. WO 97/48783) for the reasons cited in the previous Office action. Kondo does not teach a lubricant comprising an antiseptic substance. In the analogous art of lubricating solutions for metal working, Murata teaches the use of a "preservative" in waterborne lubricants (see page 7, lines 18-22). A preservative can be reasonably interpreted as equivalent to an antiseptic in that both serve to prevent growth of unwanted organisms such as molds, bacterial, etc. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the

lubricant taught by Kondo with the preservative taught by Murata for the benefit of providing a lubricant solution with a long shelf life.

Response to Arguments

8. Applicant's arguments, see page 9, filed 2 July 2009, with respect to claim 1 have been fully considered and are persuasive. The objection of 2 April 2009 has been withdrawn.

9. Applicant's arguments filed 2 July 2009 have been fully considered but they are not persuasive. Applicant argues that Kondo does not disclose a solution obtained by completely dissolving a lubricant in water into a uniform phase. Examiner respectfully disagrees. In paragraph [0039], Kondo discloses the use of lubricants composed of metal salts of higher fatty acids. While Kondo lists some specific examples of such salts, the disclosure is not limited solely to the listed examples and includes all metal salts of higher fatty acids. Kondo specifically lists several metal salts of stearic acid. Sodium stearate is a known metal salt of stearic acid that is soluble in water. Kondo teaches a procedure for creating a lubricant coating that is to be spray or otherwise applied to the surface of a compaction die, the procedure including the steps of dissolving a surfactant in water (see [0043]) and then dispersing the lubricant in this solution (see [0048]). Kondo teaches that coating material is diluted down to contain 0.1 to 5% by weight of the lubricant before it is applied to the die (see [0050]). When sodium stearate is subjected to the procedure taught by Kondo, it will inherently dissolve completely in the water to form a uniform phase because the solubility of

sodium stearate in water is greater than 0.1% by weight. As per MPEP 2112, the express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. Further, there is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of the invention, but only that the subject matter is in fact inherent in the prior art reference.

Applicant argues that Kondo teaches away from the use of sodium stearate because a ball-mill pulverization process is referred to and no explicit mention is made to sodium stearate. The fact that Kondo does not cite sodium stearate as a preferred embodiment does not change that fact that Kondo discloses the use of all metal salts of higher fatty acids as lubricants in powder compaction. A prior art reference much be viewed for all that it discloses, not just what is taught as a preferred embodiment.

Applicant argues that unexpected results were obtained by the claimed invention. As discussed above, Kondo anticipates the use of sodium stearate as a lubricant in water. The performance of sodium stearate as a lubricant in the process taught by Kondo is inherent in the material and process. While this performance may have been unexpected, it is nonetheless inherent in the process and therefore anticipated by Kondo.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM P. BELL whose telephone number is

(571)270-7067. The examiner can normally be reached on Monday - Thursday, 8:00 am - 5:30 pm; Alternating Fridays, 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

wpb

/Christina Johnson/

Supervisory Patent Examiner, Art Unit 1791